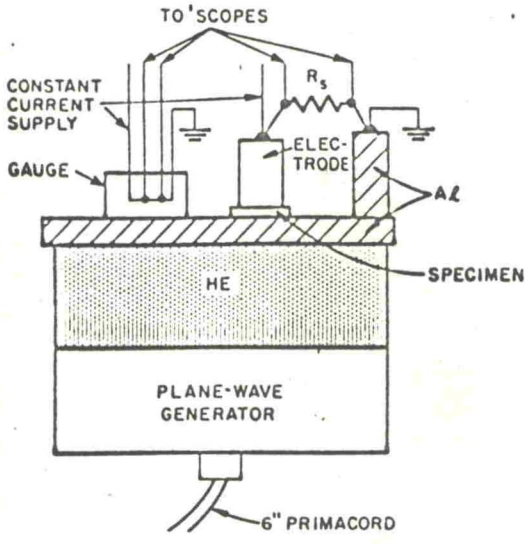


FIG. 1 LONGITUDINAL GEOMETRY

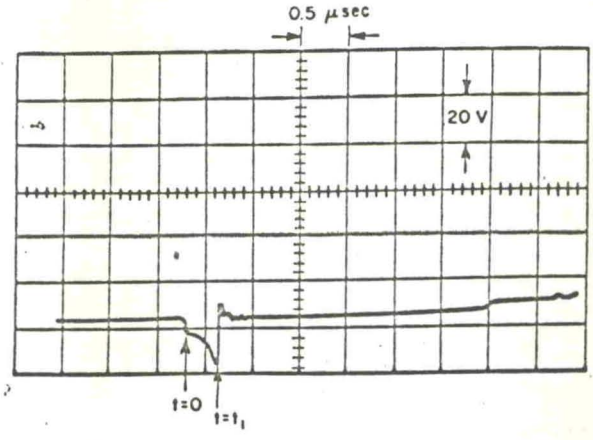


FIG. 2 POLARIZATION SIGNAL, NaCl, 231 kbar

range in NaCl. The latter is of particular interest because of the recent evidence of a phase transition at 17 kbar (static x-ray)[4] or 29 kbar (multiple shock fronts).[5]

Clear evidence of a double shock in KCl was seen; both KCl and KI exhibited positive signals. For three shots (10, 13 and 16 kbar) in NaCl, the signal went from positive to negative during shock transit; the (positive) amplitudes increased exponentially with pressure. At 25 and 35 kbar the signal was positive and at 230 kbar it was negative, with little further pressure dependence indicated. A series of shots at 35 kbar in NaCl gave initial amplitudes varying inversely with specimen thickness as predicted by Allison and Hauver.[3] Shots fired at 36 kbar with NaCl crystals in (110) and (111) orientations gave positive signals which were different in shape from those obtained in the (100) orientation. At least two sign changes occur in CsI in the 100 to 240 kbar range. CsI and KI, differing threefold in anion/cation mass ratio, produced signals of approximately the same amplitude but of opposite sign at 100 kbar. One shot with MgO [(100) orientation] at ~70 kbar gave a positive 1.2-v signal.

No correlation of signal with the type of crystal structure has been found.

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